ANNUAL FOREST INSECT CONTROL REPORT FOR THE NATIONAL PARKS

SEASON OF 1933

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General Forest Insect Conditions

Eastern Parks

Conditions in the East seem to be, on the whole, favorable. In the Acadia National Park Dreyfusia has been killing many balsam fir trees; the outbreak, however, is not limited to the park, but is widespread through Maine. There have also been light outbreaks of two species of leaf-mining saw flies and a small moth, the birch case bearer. This is the only park reporting serious outbreaks.

Western Parks

The status of insect conditions is quite different for the western parks. Six report barkbeetles in epidemic form, and close maintenance work is required in several other parks.

Because of the threatened loss of the lodgepole pine stands in the Yellowstone, this park has requested the largest sum, $95,000, to combat the mountain pine beetle. Sums to control an outbreak of Ips oregoni and several other smaller projects bring the total required up to $110,-000. Yosemite is next with a request of $17,000 to combat outbreaks of Dendroctonus brevicomis and D. monticolae. The Sequoia requires $9,300 for control projects against these same beetles.

Summary of Insect Control Reports for 1933

Table 1 below gives a summary of these reports.

Table 1. Summary of the Annual Forest Insect Reports from the Various Parks for 1933.

National Park	Date of Surveys	Time Spent on Surveys	General Situation	No. of Trees Killed	Tree Species Killed	Insect Species	Area of Infestation (Acres)	Sum Recommended for 1934 Control Work
Acadia E	Full season	Full season	Not very good	1,600 500 100	Abies balsamea Betula alba " " Populus	Dreyfusia) Birch sawfly) Birch leaf-) miner) Poplar borer Leaf beetles	9,000	Recommended that none be made.
Carlsbad	No insect infestations							
Crater Lake*	Oct. 19-20	2 days	Control work required	Not given	Yellow pine White fir	D. brevicomis Fir engraver beetle	Not given	Not stated. Probably about $1,000.
General Grant	Oct. 24	1 day	Fairly good	30 16 3	Sugar pine Yellow pine Jeffrey pine	D. monticolae) D. brevicomis) D. jeffreyi)	2,560	Not stated.
Glacier*	Sept.-Oct.	53 man days	Serious around Lake MacDonald and control required around St. Mary's and Walton District	155,200 19,800 51,500 1,000 200 50	Lodgepole White pine Douglasfir Fir Engel.spruce Larch	D. monticolae) ") D.pseudotsuque) Scotybus) D.engelmanni) ?)	29,600+	Not stated.
Grand Canyon	Oct. 20-25	5 days	Good	16+	Yellow pine	D. barberi	203,000	Not stated.
Grand Teton*	Sept.9-20	12 days	Better	1,000	Lodgepole	D. monticolae	3,000	Control measures recommended. Sum not stated. Probably about $1,500 needed.
Great Smoky E	July 1-Oct.1	3 months	Good	Considerable white pine weevil work				Apparently none required.
Hawaii	July-Oct.	3 months	Poor in places	360 11	Ohia Koa	Fungi chiefly) " ")	4,000	Not stated.
Hot Springs	Oct. 15	Incidental	O.K.	-	-	-	-	Apparently none required.

Table 1, Cont'd.

National Park	Date of Surveys	Time Spent on Surveys	General Situation	No. of Trees Killed	Tree Species Killed	Insect Species	Area of Infestation (Acres)	Sum Recommended for 1934 Control Work
Lassen	October	7 days	Good	-	-	-	-	Not stated.
Mesa Verde	June 10-Oct. 16	1 hr.per day	Fair	4,500	Pinon pine	Ips	12,160	Not stated.
Mt. McKinley	Sept. 30	5 days	Good	No insects of importance				
Mt. Rainier	Sept.	2 days	Fair	1,150	White pine	D. monticolae	-	Thought to be too unapproachable to treat.
Platt[E]	Fall, 1933	?	Moderate	Not started			-	
Rocky Mt.	Oct. 20	1½ days	Good	89	Ponderosa pine	D. ponderosae	27,000	Not started but control required for maintenance.
Sequoia*	-	-	Epidemic in certain areas	537 ?	Lodgepole Ponderosa pine	D. monticolae D. brevicomis	4,000+ 5,000+	$9,300
Wind Cave[E]	No insects	-	-	-	-	-	-	
Yellowstone*	Sept.-Oct.	-	Serious in places	?	P. contocta) P. albicaulis) P. contorta	D. monticolae Ips oregoni	1,044+	$110,000
Yosemite*	Season	Varied	Good-Tawona Poor-Rockefeller purchase	2,080 1,400 200+ 100	Ponderosa pine Sugar pine Lodgepole Douglas fir	D. brevicomis) D. monticolae) " Flatheads	71,000	$17,000
Zion and*	Sept.	?	Infestation increasing	Not known	Box elder Fremont cottonwood Desert ash	B. elder beetle Tent caterpillar Ash tree caterpillar	500	Not stated.
Bryce	Sept.	2 days	No insects					

Summary of 1933 Control Projects

Unfortunately, reports are at hand for only three parks. The data for these three are summarized below.

SEQUOIA NATIONAL PARK

	Project			
	Yucca Creek-Marble Fork	EGW	Clover Creek	Hockett Meadow
Period	April-May	July-Aug.	Oct. 23-Nov.17	Oct.16-Nov.27
Tree species of pine	Ponderosa Sugar	Ponderosa Sugar	Lodgepole	Lodgepole
Insect	D.brevicomis D.monticolae	D.brevicomis D.monticolae	D.monticolae	D.monticolae
Method of control	Felling and burning	Sun cure	Felling and burning	Felling and burning
Total acres infested	1920 app.	?	1380	4500 app.
Acres spotted	1920 app.	1600	1380	2000
Acres treated	1920 app.	1600	1380	1900
No. of trees spotted	254	?	141	397
No. of trees treated	254	98	139	338
Volume of trees treated	419,250 b.f.	?	82,600 b.f.	136,610 b.f.
Total man days (8 hrs.)	725	?	210	472
Cost of project	$2,688.87	?	$1,072.23	$2,373.34
Cost per tree	$10.58	?	$7.71	$7.01
Cost per man day	$3.71	?	$5.11	$5.01
Cost per M.B.F.	6.41	?	$12.98	$17.54
Trees treated per man day	.35	?	.67	.72
Volume treated per man day	578 b.f.	?	393 b.f.	289 b.f.

YELLOWSTONE NATIONAL PARK

Project: Mt. Washburn

Period: June 8-July 8, 1933

Tree species	Lodgepole pine
Insect	Mountain pine beetle
Method of control	Felling and burning
Total acres infested	?
Acreage spotted	1,044
Acres treated	728
Number of trees spotted	462
Number of trees treated	347
Total man days	570
Man days spotting	135
Man days treating	384
Cost of project	ECW funds
Cost per tree	ECW funds
Trees treated per man days	.9
Trees spotted per man day	3.41

YOSEMITE NATIONAL PARK

Project: Wawona, Eleven Mile, Crane Flat

Period: July-September 1

Tree species	Sugar pine, Ponderosa pine
Insect	D. brevicomis, D. monticolae
Method of control	Solar heat
Total acres infested	Not given
Acres spotted	Not given
Acres treated	Not given
Number of trees spotted	Not given
Number of trees treated	416
Volume of trees treated	1,628,700 bd. ft.
Total man-days (8 hrs.)	1,407
Cost of project	ECW project
Cost per tree	ECW project
Cost per man-days	ECW project
Trees treated per man-day	.29
Volume per man day	1,157 bd. ft.

(Tentative form to go with
Annual Forest Insect Report)

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Summary of Ranger District Data, Recommendations for Control, and Costs*

Park:_____

Ranger District	Name of area† in which control is needed	Insect to be controlled	Tree Species	Acres of infestation or of trees to be treated	Appr. cost per tree or unit area	Estimated total cost

Submitted by:_____

Title:_____

Date:_____

* To be filled out by the ranger designated by the superintendent to give special attention to insect matters within the park, as stated in "A Forestry Policy for the National Parks," 1931.

† State in footnote whether maintenance or a new project.

CONCLUSIONS

During the analysis of the data in the annual insect control reports, several deficiencies were apparent. The most noticeable is that there is no space on the form for recommendations for control and an estimate of the cost of the project. While perhaps these data should not be left entirely to the district ranger, I believe that he should be made to feel the value of the form more than he does at present. Consequently, he does not use as much care as he could in filling out the forms. As he should be the man who knows the character and conditions of the region as well as, or better than, any one else in the park, his estimates should be of some value. The estimates of the district ranger should then be modified or corrected by the ranger in charge of all the insect work in the park and placed on a summary sheet and amplified as to costs, etc.

In working up the costs of the control projects for 1933, it was found that reports were present only for three parks. Control work is almost always finished by the middle of December, generally many weeks earlier, so that reports of all but the latest projects should be in by December 1. A report of the control project should be sent to the Berkeley Headquarters as soon as possible after the completion of the work. The report needs to be nothing more than an itemization of the operations for the past season, giving all the data as shown, for example, in the Sequoia report.

These reports can then be quickly brought together for all the parks, so that a record of any project can be immediately secured when needed.

Submitted January 8, 1934,
by Donald DeLeon, Entomological Technician.

cc Mr. Hall
Mr. Coffman
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